MARSHALL STAR

Marshall Space Flight Center — March 8, 2001

'We bring people to space — We bring space to people'

Inside the Star

Marshall Center invests millions in area minority businesses

by Lynnette Madison

NASA invested more than $176 million in North Alabama minority- and women-owned businesses last year through its Small Business and Industry Assistance Office at the Marshall Center.

The Center spent $391 million on small business contracts.

More than $176.8 million of those dollars went to small disadvantaged businesses, of which $79 million went to women-owned businesses, according to figures compiled by the Small Business and Industry Assistance Office, part of the Marshall Center's Procurement Office. For the past two years, 10 percent of Marshall's total contract dollars have gone to small disadvantaged businesses.

"By contracting with minority- and women-owned businesses, Marshall is strengthening the regional economy which benefits the area," said Stan McCall, lead for the Small Business and Industry Assistance Office.

"More importantly, we recognize the small business community as essential to Marshall's success," he said. "They are

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NASA reaches milestone in Space Launch Initiative program; also announces no SLI funding for X-33 or X-34

NASA has selected a number of companies to enter into competitive negotiations for the Space Launch Initiative (SLI).

As defined in the President's budget blueprint for the Agency, the Space Launch Initiative provides commercial industry with the opportunity to meet NASA's future launch needs, including human access to space, with new launch vehicles that promise to dramatically reduce cost and improve safety and reliability.

The primary focus of the Space Launch Initiative is on technology development for concepts that would be able to launch payloads for NASA, commercial and military missions and be able to fly crew to and from the International Space Station. Satellite delivery and future International Space Station support are the primary set of requirements for the new system and would include elements like crew transfer vehicles, reusable launch vehicles and orbital transfer systems.

NASA also announced it will not add Space Launch Initiative funds to the X-33 or X-34 programs. As a result, the current X-33 program will come to completion when the cooperative agreement between NASA and Lockheed Martin expires on March 31, unless Lockheed Martin chooses to go forward with the program with its own funds. NASA is in the process of ending its X-34 contract with Orbital Sciences Corp. of Dulles, Va.

Photo by Emmett Given, NASA/Marshall Space Flight Center

At a special all-hands meeting Friday, Marshall Center Director Art Stephenson explains how NASA's recent decisions would affect the Marshall workforce.

Continuation of both programs had depended upon their successfully competing for Space Launch Initiative funding under a NASA Research Announcement that will lead to award of some

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Engineering magazine recognizes Marshall's Space Shuttle Project Manager Alex McCool

by Lynette Madison

Design News, a leading mechanical engineering magazine, has named Alex A. McCool Jr. of the Marshall Center winner of its annual Special Achievement Award, in recognition of his more than 45 years of work in space propulsion.

The magazine presented the award at a banquet in Chicago Tuesday — along with a $20,000 grant to McCool's alma mater, the College of Engineering at the University of Louisiana at Lafayette.

McCool is also featured in an article, "Rocket Man," in the Feb. 26 issue of Design News, which is aimed at engineers who design products ranging from autos to spacecraft.

McCool began his career in rocket research in 1954 at Redstone Arsenal. Today, he is manager of Marshall's Space Shuttle Projects Office, where, he has overall responsibility for the manufacture, assembly and operation of the primary Shuttle propulsion elements: Main Engines, External Tank, Solid Rocket Boosters and Reusable Solid Rocket Motors.

McCool

The Design News' Special Achievement Award is one of 16 awards in the magazine's Excellence in Design program. Its editors choose the top awards — Achievement and Engineering Quality. Readers select Engineer of the Year. The $20,000 gift to McCool's alma mater is an educational grant from NTN Bearing Corp. of America.

At an age when most people are on the golf course, McCool keeps a rigorous schedule including pre-flight, launch and post-flight meetings for each Shuttle launch. Eight launches are planned for 2001. McCool has worked on the propulsion systems for all 102 Shuttle missions flown to date.

McCool served as director of the Structures and Propulsion Laboratory during the design of the Shuttle's propulsion elements. Then, as director of Marshall's Safety and Mission Assurance Office, he played an important role in the Space Shuttle's redesign and its return to flight in 1988. In January of 1992, he was named manager of the Space Shuttle Projects Office.

He received his bachelor's degree in mechanical engineering from the University of Southwestern Louisiana — now known as the University of Louisiana, Lafayette. He holds a master's degree in fluid mechanics from Louisiana State University in Baton Rouge.

McCool is the recipient of several awards, including the Presidential Rank of Meritorious Executive from President Bush in 1991 and NASA's Distinguished Service Medal, its Exceptional Service Medal, and its Outstanding Leadership Medal. He resides in Huntsville with his wife Genelle.

The writer, employed by ASRI, supports the Media Relations Department.

Business

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responsive to our needs and innovative."

McCall attributes the success of Marshall's programs to the "strong pool of high-tech, minority- and women-owned businesses" that are based in the Huntsville area.

Fiscal year 2000 also was a banner year for NASA overall, in terms of contracts to minority- and women-owned businesses. The Agency awarded more than $2 billion in contracts to those firms. The figure represents 18.3 percent of NASA's total contract dollars, compared to just 7.2 percent, or $865 million, in 1992.

Significant strides have been made by NASA's Office of Small and Disadvantaged Business Utilization to increase the number of contracts awarded to minority-owned firms. The agency was recently named one of America's top 50 organizations for providing multicultural business opportunities. NASA received the honor from Div2000.com, a business Internet portal that links multicultural businesses, Fortune 1000 companies, government agencies and universities.

The "top 50" list included companies such as Boeing, Microsoft and Wal-Mart.

NASA defines a "disadvantaged" small business as one owned by a socially and economically disadvantaged individual. A socially disadvantaged business is classified as one owned by a group historically subjected to bias such as African Americans, Native Americans, Hispanic Americans, Asian-Indian Americans and Asian-Pacific Americans.

More information on how to market a minority- or women-owned business to the Marshall Center can be found at: *http://ec.msfc.nasa.gov/msfc/doin_bus.html*

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SLI

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$900 million over the next two-and-a-half years. That solicitation was issued in October 2000, and industry proposals submitted in December 2000. Contract awards could be awarded as early as April, but none of those negotiations will include X-33 or X-34. NASA determined that the benefits to be derived from flight testing these X-vehicles did not warrant the magnitude of government investment required and that SLI funds should be applied to higher priority needs.

More than 300 personnel from throughout NASA participated in the SLI proposal evaluation process. "This has been a very tough decision but we think it is the right business decision," said Center Director Art Stephenson. Marshall manages the SLI, X-33 and X-34 programs for NASA. "We have gained a tremendous amount of knowledge from these X-programs, but one of the things we have learned is that our technology has not yet advanced to the point that we can successfully develop a new reusable launch vehicle that substantially improves safety, reliability and affordability.

"The Space Launch Initiative will take us to that point. It is a comprehensive, long-range plan to promote commercial development and civil exploration of space and provides the strategy and funding to enable at least two competing architectures for full-scale development of a 2nd generation reusable launch vehicle by mid-decade," Stephenson said. "Through focused risk-reduction activities and risk-reduction technology development, we will make significant improvements in safety, reliability and affordability over the launch capability we have today. A new launch system that meets these goals could begin operating early in the next decade."

X-34

X-33

NASA began the X-33 program in 1996 as part of its Reusable Launch Vehicle program. It called for the demonstration of a subscale single-stage-to-orbit vehicle, one that would go from launch stand to orbit without using multiple stages as the Saturn moon rocket did or dropping rocket motors and a fuel tank like the Space Shuttle.

Using composite materials to reduce vehicle weight is one of the keys to successfully developing a single-stage-to-orbit launch vehicle. In November 1999 the X-33's composite liquid hydrogen fuel tank failed during testing. An investigation into the cause of the failure revealed that composite technology was not mature enough for such a use. Lockheed Martin proposed to complete development of the X-33 by replacing its two composite liquid hydrogen tanks with aluminum tanks. NASA agreed to permit them to compete for SLI funding to do so. But the benefits of testing the X-33 in flight did not justify the cost.

NASA investment in the X-33 program totaled $912 million, staying within its 1996 budget projection for the program. Lockheed Martin originally committed to invest $212 million in the X-33, and during the life of the program increased that amount to $357 million.


X-33

X-34

The X-34 program also was initiated in 1996, to provide a low-cost technology test bed that would demonstrate a streamlined management approach with a rapid development schedule and limited testing. A joint NASA/Orbital Sciences Corporation review of the project last year revealed the need to redefine the project's approach, scope, budget and schedule. To ensure safety and mission success of the X-34 it became necessary to increase government technical insight, hardware testing and integrated systems assessments. As a result, the projected cost of completing the X-34 program at an acceptable level of risk rose significantly above the planned budget. NASA decided that such additional funding for X-34 risk reduction would have to be competed within the SLI evaluation process. As with X-33, NASA determined that the benefits to be derived from continuing the X-34 program did not justify the cost.

Bright ideas from college students become solution to keep tools handy and help astronauts

by Jack Robertson

Imagine working on a building project and your tools keep disappearing. Or part of what you're constructing keeps floating away.

That's the challenge facing astronauts as they work in the low-gravity environment created as the International Space Station orbits Earth. Equipment and tools can float away — even disappear.

Now industrial design students at Auburn University in Auburn, Ala., have helped NASA solve the problem. The solution: the Payload Equipment Restraint System (PERS), which will enable Space Station crews to work more efficiently.

The system combines straps, mesh pockets, Kevlar, Velcro and a variety of connecting devices into a portable, adjustable system. PERS attaches to the Space Station's rack seat track system — similar to seat tracks used in commercial airplanes.

Originally designed to assist the crew when they exchange equipment and experiments on the Materials Science Research Facility — a standardized payload rack that houses materials science experiments — PERS will now be used throughout the Space Station.

"It is a win-win situation," said Ken Smith, the original PERS program manager at the Marshall Center. "We anticipated a problem for the Space Station crews and we used our partnership with Auburn to get a solution.

"We got really great initiative from the students. They got so excited when they realized they were actually assisting and producing products that will fly in space and will be used by the astronauts," he said.

NASA photo

Auburn student Chris Barrs inspects the H-Strap installation of the Payload Equipment Restraint System (PERS).

NASA presented the problem to the students in early 1998. Smith and Auburn professors supervised 36 students in 12 teams as they tackled the design and fabrication challenge.

The students submitted more than 360 innovative ideas. Ultimately 12 concepts were selected for prototype development. The teams presented their proposals and prototypes to program managers and engineers at the Marshall Center.

Managers selected three for further development and an integrated system was presented to the astronaut corps and Space Station program managers in 1999.

In late 1999, NASA directed fabrication of the development units that flew aboard NASA's KC-135 aircraft for testing and evaluation. The findings from the test flights in early 2000 resulted in the final design that was qualified for flight.

A NASA contractor, Sverdrup Technology, hired one of the students, Chris Barrs of Tampa, Fla., to work on the project during the development and fabrication stages. Barrs is now a graduate student and visiting instructor in the Department of Industrial Design at Auburn.

"It couldn't be more exciting," Barrs said. "I grew up watching the space program and could even see the Shuttle go up from my backyard in Tampa. To have the opportunity to make a difference and have a little piece of my effort go into the Space Station is phenomenal."

The astronaut corps has enthusiastically received PERS.

"The astronauts have had an opportunity to work with and use the hardware," said David Reynolds, PERS Lead System Engineer in the Flight Projects Directorate at the Marshall Center. "Their response has been wonderful. They've actually requested that the hardware go up sooner than we had intended."

The astronauts have also requested more PERS units for Space Station and inquired about incorporating similar systems for SPACEHAB operations on future Space Shuttle missions, Reynolds added.

A handy, expandable system

The Single Strap and the H-Strap are the first PERS components to be used on the Space Station. The straps are designed to attach to opposing rack faces that are approximately 86 inches (218.4 centimeters) apart.

The PERS system will eventually include five separate elements for the Space Station crews. Both straps will be used with other PERS components — the Belly Pack, the Laptop Restraint Belt and the Tool Page Case — on future Space Station missions.

Crew members will use the straps to hold cables, hand tools, Space Station bungee straps, payload hardware, odd-shaped items, samples and large boxes.

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Discovery carries Marshall Center payloads to Station

The next flight of Space Shuttle Discovery will carry the three members of the Expedition Two crew to their new home on orbit; the launch is scheduled for 5:42 a.m. CST, Thursday.

Marshall payloads on this flight include the Multi-Purpose Logistics Module, the Human Research Facility racks, and the Payload Equipment Restraint System. This mission also marks the beginning of around-the-clock operations at the Payload Operations Center.

This mission will also mark the homecoming of the Expedition One crew, the first three space explorers to inhabit the orbiting international platform. That crew will be returning to Earth aboard Discovery.

"Between the crew exchange, the first use of the Multi-Purpose Logistics Module, and the installation of the first scientific racks inside the U.S. Laboratory Destiny, we are looking forward to a very busy and productive mission," said Mike Hawes, deputy associate administrator for Space Station at NASA Headquarters.

Along with exchanging a crew in orbit, the shuttle will carry the Leonardo Multi-Purpose Logistics Module. Built by the Italian Space Agency for the Marshall Center, Leonardo will serve as the station's moving van, allowing the Shuttle to ferry experiments, supplies and cargo back and forth during missions.

For this mission, it carries the Human Research Facility, the first research payload to be installed in the U.S. Laboratory. The facility will open the door for research in expanding fields of biology, chemistry, physics and commercialization.

The arrival of the second expedition marks a milestone in Space Station operations as the new crew transitions from creating a habitable home to inaugurating research operations on a permanent basis.

There is more information about the STS-102 mission and the International Space Station on the Internet at: *http://www.spaceflight.nasa.gov/*

PERS

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The Single Strap is made of Kevlar, used for bulletproof vests; Nomex webbing, used for protective clothing; elastic and Velcro. It can be adjusted for tautness to make it a firm, yet easily moveable restraint. There are several ways to attach items to the strap, including Velcro, elastic loops, cable ties and D-Rings. The Single Strap attaches with a seat track stud into the Station's rack seat track system.

The H-Strap has the same attachment features of the Single Strap, but is wider with mesh pockets for more temporary storage. Both straps are easy to work with, as a crew member can unroll it, attach it and — when the job is finished — move to another work area.

The Single Strap can be rolled or folded for easy stowage. The H-Strap is rolled up to a storage dimension of 11 inches (27.9 centimeters) long by 10 inches (25.4 centimeters) wide by 4 inches (10.16 centimeters) tall.

The writer, employed by ASRI, supports the Media Relations Department.

Property Awareness Month

Equipment inventory assistance needed

As the Marshall Center winds down its annual wall-to-wall physical inventory this year, more than 96 percent of the Center's tagged equipment has been located and scanned.

There are approximately 900 items of equipment that the inventory team could not locate. To find these items, each directorate was provided a "missing items" listing during the executive staff meeting Feb. 26 and asked to review and locate these items.

Assigned property support assistants and organizational property managers are available for assistance. For a listing of these personnel, visit the Web at: *http://srs.msfc.nasa.gov/catalog/includes/opmlist.htm.*

Property support assistants simultaneously will be updating location and user listings in the asset tracking databases with the information provided by the directorates to ensure the latest information is properly captured.

This information will be entered into the new consolidated equipment database entitled "Marshall Asset Management Systems." This database — to be released this summer — will streamline Marshall's yearly inventories because users will be allowed to access all assigned equipment and make real-time changes and inquiries as needed.

Medical Center reminds Marshall employees to keep appointments or cancel by phone

from the Medical Center

Officials in the Center Operations Directorate and at the Medical Center said they appreciate efforts employees are making regarding appointments at the Medical Center.

If an appointment cannot be met, the Medical Center should be notified as early as possible. Appointments can be canceled and rescheduled by calling 544-2390.

Notifications of cancellation will allow the Medical Center staff to reschedule the appointment and to schedule another employee at the original time, thus increasing clinic efficiency.

Employees who need to cancel laboratory work or proctosigmoidoscopy appointments are asked to cancel no later than the day before the appointment, so that someone else can be scheduled early enough to meet the fasting requirement.

Under the voluntary physical examination program, any Marshall Center civil servant who does not call to cancel the appointment will not be contacted by the Medical Center to reschedule. It is the responsibility of that employee to call the Medical Center to schedule a new appointment.

Monthlong celebration at Marshall

Rousing close to Black History Month observance

From left, Linda Yarborough, Linda Draper, Ola Metcalf and Alicia Beam sing "Lift Every Voice and Sing" at the closing program.

Photos by Doug Stoffer, NASA/Marshall Space Flight Center

Journalist Vernon Jarrett, above, delivers the closing address at the Marshall Center's Black History Month observance Feb. 28 in Morris Auditorium.

Center Announcements

Doing business with NASA

The Marshall Center and the Shoals Chamber of Commerce are co-sponsoring a business and industry incentive showcase from 8 a.m.-5 p.m. April 5 at the Florence Conference Center. Prime contractors at Marshall will display exhibits. For more information, call Joseph Derell Hobson at 544-0375.

Annual retiree dinner

The 15th annual Marshall Dinner honoring those employees who retired in calendar year 2000 will be at 5:30 p.m. March 22 at the Von Braun Center. All employees, retirees and guests are invited to attend. This year's entertainment will feature managers, employees and retirees performing instrumental and vocal musical selections which display their own varied talents. Tickets — available from administrative officers — will be sold through March 16. Reserved tables may be purchased from your administrative officer or Patricia Caraway in Bldg. 4200, room 328.

Washington Update

Washington Update with Alabama Sen. Richard Shelby will be at noon March 26 at the Von Braun Center. Cost is $25. To make reservations, call Rosa Kilpatrick of the Customer and Employee Relations Directorate at 544-0042. Payment — either cash or check — must be made no later than March 15.

Clubs and Meetings

NARFE meets

The National Association of Retired Federal Employees (NARFE) will meet Saturday at the Senior Center on Drake Avenue. Ernie Blair, director of the Huntsville-Madison County 911 Emergency Management Center, will explain how the Emergency Management Center operates with area government, law enforcement and safety personnel when emergencies arise.

Facilities Office breakfast

Facilities Office retirees will meet for breakfast at 8 a.m. March 13 at the Shoney's on University Drive and Memorial Parkway. For more information, call Carl Gates at 232-2950.

AIAA luncheon

The American Institute of Aeronautics and Astronautics will meet for lunch from 11 a.m.-1 p.m. March 15 at the Redstone Arsenal Officers' and Civilians' Club. Dr. Arloe W. Mayne will present a program on Robert Goddard's career and the first liquid-fueled rocket. This is the 75th anniversary of rocket pioneer Goddard's successful launch of the first liquid-fueled rocket. Cost is $10. Make reservations by calling G. Alan Lowrey at (256) 461-4398 by noon March 13, or send e-mail to gordon.lowrey@ums.msfc.nasa.gov

Waltz, polka lessons

Waltz and polka dance lessons will be held from 7-8 p.m. Mondays through March 26 at Saint Stephens Episcopal Church on Whitesburg Drive, the second building north of Lily Flagg Road. For details, call Woody Bombara at 650-0200.

Coast Guard Auxiliary meets

The U.S. Coast Guard Auxiliary, the civilian component of the U.S. Coast Guard, Redstone Flotilla 2406, holds meetings at Bldg. 3305 Stillwell Hall, Room 215, on Redstone Arsenal, on the first Thursday of each month at 7 p.m. New members are welcome.

Miscellaneous

Free boating safety class

Free boating safety and seamanship classes are being held on an ongoing basis until November. For information, call Tom Kunhart at 885-7096 or 830-6621.

Firewood available

Firewood is available on Redstone Arsenal at a small fee to Marshall team members. Anyone wanting to pick up firewood must have a permit from the Army. The permit costs $10. The wood is located at the corner of Centaur and Martin Roads, behind Bldg. 4643. For information on obtaining permits, call Mike Nichols at 544-4901.

NASA Exchange

NASA goes to the Stars

The NASA Exchange is sponsoring the Huntsville Stars' opening night game against West Tennessee Diamond Jaxx at 7:05 p.m. April 13 at Joe Davis Stadium in Huntsville. Free tickets will be available to all Marshall team members and families prior to the game. The Customer and Employee Relations Directorate is hosting the event.

Sports

Tennis Club membership drive

The MARS Tennis Club annual membership drive continues through March 12. Anyone interested in joining the club may download the form from the Inside Marshall MARS Tennis Club Web site or contact Ronda Moyers at 544-6809, Bill Boglio at 544-3806 or Larry Craig at 544-7183.

Golf tournament

The first golf tournament of the season is a handicap tournament beginning at 8 a.m. March 24 at the Huntsville Municipal Golf Course. Entry deadline is March 16. The entry fee for each tournament is $5. Greens fees and cart fees will vary depending on the course. To enter the tournament call Lee Foster at 544-1589, Joey Butler at 544-3808 or Robert Rutherford at 544-8117.

Employee Ads

Miscellaneous

★ Antique camera collection. 325-6000
★ Solid wood entertainment center, doors cover TV, drawer below TV, moveable shelves, $500 obo. 603-3790
★ 1990 Suzuki GS500E motorcycle, red w/ white wheels, 8K miles, $1,750. 508-8117
★ Moving boxes; 13 – 16"Hx18"Dx18"W; 9 – 13"Hx13"Dx16"W; 4 – 19"Hx18"Dx24"W; $10 for all. 721-8770 after 5 p.m.
★ Portable electric generator, Homelite 4400, push-button start, 4,000 watts, 110/220 VAC, $500 firm. 881-0749
★ AKC registered standard poodle puppies, champion background, one male, $600. 256-753-2278
★ Tom-Boy Bass Pro 15 fiberglass Tri-V boat w/25HP outboard and trailer, $1,000. 772-4294
★ Porter cable router, 1-1/2 HP, Model 690, $100. 828-2808
★ Two burial plots, Huntsville Memory gardens, includes vaults, $1,200. 534-0939
★ Tiller, front tine, 5HP, B&S, $175; treadmill, heavy-duty, manual speed & incline adjustment, $150. 881-6040
★ Singer cabinet sewing machine w/attachments, $45; Lazy Boy rocker/recliner, gold, $50; adult life jacket, $25. 881-9421
★ Two cemetery plots, Huntsville Memory Gardens, $1,000. 536-3435
★ Little Tykes twin size race car bed, $165; Huffy portable basketball goal, $65. 533-5942
★ Ping-pong table, professional model, has casters, folds for storage, $60 obo. 464-5819
★ RedHat 7.0 Standard Version, $20 obo. 233-5247
★ Lawn Boy mower, 21" cut, runs, hard to start, $25 obo. 464-5819
★ 1992 Suzuki motorcycle, GSF 400N Bandit, red, 14K miles, $2,200. 859-0729
★ Sofa, cloth, cream with mauve/blue colors, $250. 971-0292
★ Ottoman, green; $50 obo; entertainment center w/glass door, for 27" TV/VCR/ Stereo equip. & storage for tapes, $75 obo. 751-2460
★ Bicycle, Trek Millennia, men's, $250; Graber Guardian 2, 2-bike car rack, $40. 882-3983
★ Two 8' aluminum sliding doors; various sized aluminum, single-hung windows. 883-9339
★ Kenwood TS-850SAT HF amateur transceiver w/500Hz CW filter & hand mike; $850; dry mount/laminate press, 24x36 Seal Masterpiece, $450. 881-0533
★ Ruger 10/22 w/scope & 3 mags, $190; Taurus PT945 DAO .45ACP SS, $375; cash only. 851-8085

Vehicles

★ 1997 Pace Arrow motor home, 37' w/slide, many accessories, 40K miles. 852-7180
★ 1996 Firebird, V-6, white, air, auto trans., CD-Equalizer, Redstone C.U. loan value. (256) 586-4241/882-1702
★ 1992 Mitsubishi Galant, 4-door, sedan, auto, maroon, $3,900. 533-2254
★ 1986 Bronco II, red/tan, 211K miles, V-6, auto, one-owner, $1,500 obo. 722-8570
★ 1996 Chrysler Town & Country, 4-doors, dual a/c, white, non-smoker, built-in child seats, $10,750. 325-6000
★ 1978 Ford Thunderbird, one-owner, 90K miles, $2,500. 539-6247
★ 1993 Cougar, V-6, auto, all power, tilt/ cruise, am/fm/cassette, alloy wheels, Michelin tires, 120K miles, $5,250. 931-937-6752
★ 1966 Mustang, 289-2V, auto, Flowmaster dual exhaust, rebuilt carb., burgundy/black vinyl top, 2-new tires, $3,900. 464-3300
★ 1996 Mazda 626 LX, black, 4-door, 96K miles, needs minor transmission work, $5,000 obo. 864-4115 day/891-1362 night
★ 1996 Jeep Grand Cherokee Limited, green, auto, V-8, non-smoker, sunroof, 85K miles, towing package, $14,300. 883-7621
★ 1999 Grand Jeep Cherokee Laredo, CD player, 60K miles, one-owner, $19,000. 551-0036
★ 1979 Chevy pickup, 95K miles, tool box, good tires, 8' bed, automatic, $1,750. 650-0677
1995 Cadillac Deville, champagne, must sell, $14,000 obo. 353-6358/386-7231

Wanted

★ Motorized treadmill in good working order, reasonably priced. (256) 753-2278
★ Motorized treadmill in good working order w/17" or wider belt. 880-6927
★ Honda Civic, 95 or 96, automatic, low to medium miles. 883-2757
★ Children's battery-operated car, jeep or motorcycle; children's large Little Tykes (or similar) yard toys, kitchen, etc. 722-5545

Found

★ Tie chain, Bldg. 4200 area. Call 544-7686 to identify/claim

Free

★ Satellite dish, approx. 3' diameter, already pulled up, ready to load. 233-5247

Training

Spring semester schedule

Live seminars have been scheduled for the spring semester on Marshall's Continual Learning Channel 14. Topics include GPS, quality, the Internet, risk management, communications and others. As the time for each seminar nears, enrollment instructions will be announced through "Inside Marshall." To see a list of seminars scheduled, visit the Web at: *http://www.fedlearn.com/calendar/clientpages/nasa.htm*

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